LETTER REPORT
FOR
TAYLOR SPILL
TAYLOR, WAYNE COUNTY, MICHIGAN
TDD# T05-9304-007
PAN# EMI1334MAA
DOCUMENT CONTROL # TAT-05-25-03018

MAY 28, 1993

Prepared For:
Ms. Pat Vogtman
Deputy Project Officer
Emergency and Enforcement Response Branch
Emergency Support Section
U.S. EPA Region V

Contract No.: 68-WO-0037

Project Manager: Mark C. Adams Date: 5-28-93
Prepared By: Mark C. Adams Date: 5-28-93
Reviewed By: Sandra L. Booker Date: 5/28/93
Approved By: Sandra L. Booker Date: 5/28/93

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International Specialists in the Environment

May 28, 1993

Ms. Pat Vogtman
Deputy Project Officer
Emergency Support Section
U.S. Environmental Protection Agency
77 W. Jackson Boulevard
Chicago, Illinois 60604

Re: Taylor Spill
Taylor, Wayne County, Michigan
TDD # T05-9304-007
PAN EMI1334MAA

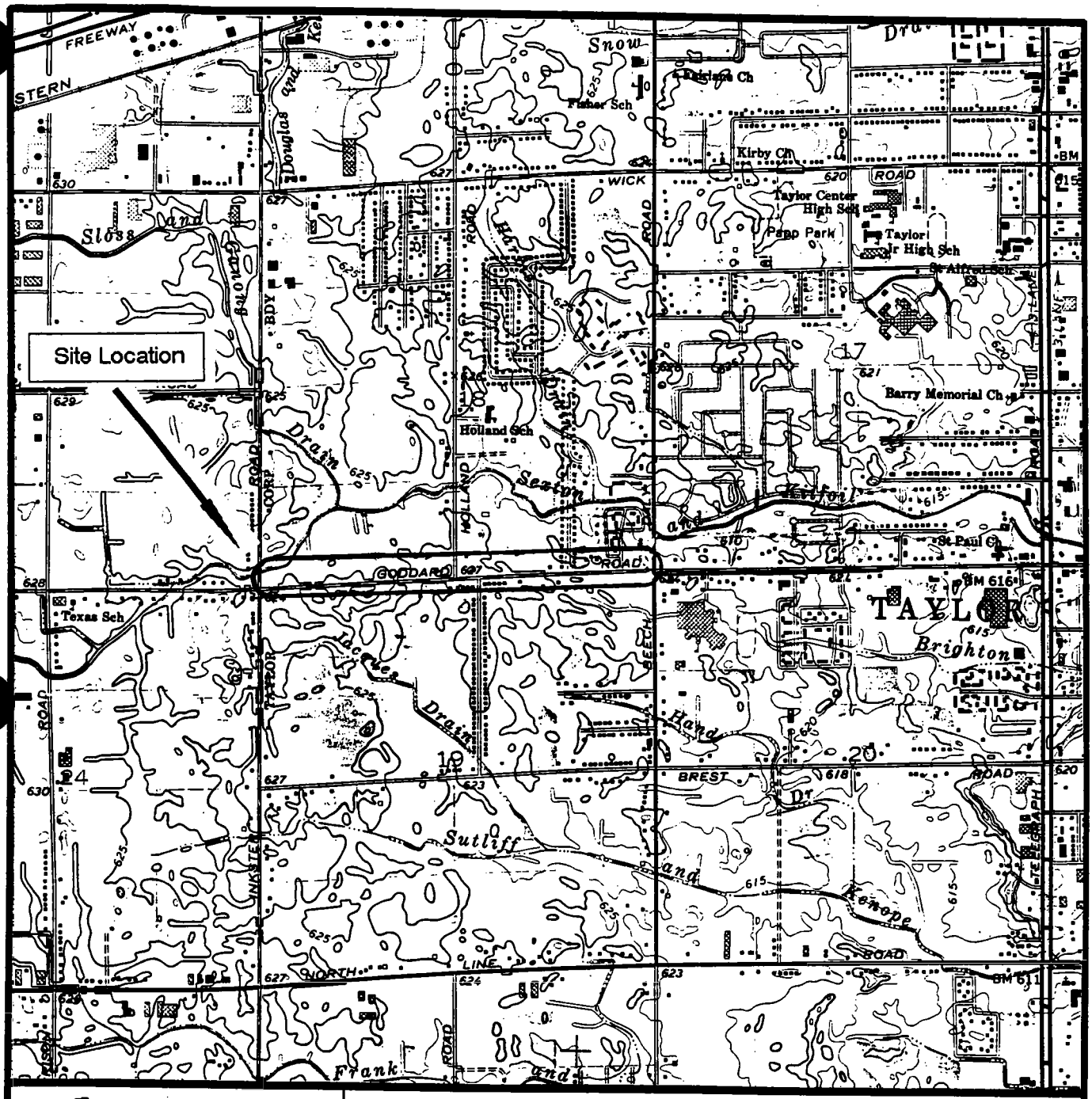
Dear Ms. Vogtman:

On April 8, 1993, the United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc., Technical Assistance Team (TAT) to conduct an on-site investigation of a storm drain at the intersection of Goddard and Inkster Roads in Taylor, Michigan, under Technical Directive Documents (TDD) Number T05-9304-007. The TAT members responding were Mark Durno and Janice Haringsma. This letter report summarizes these activities.

The site of the Taylor spill is a storm drain that parallels Goddard Road from the intersection of Goddard and Inkster Roads to Beach-Daly Road in Taylor, Wayne County, Michigan (Figure 1). The area around the site is mixed residential and light industrial.

On April 8, 1993, at 1530 hours, a private citizen notified the U.S. EPA of a spill of approximately 200 gallons of white sediment. The material was seen in a drainage ditch at the northeast corner of Goddard and Inkster Roads. The U. S. EPA notified the TAT of the spill and instructed them to observe site conditions, conduct ambient air monitoring, collect the reported substance and conduct field screening, and report observations to the OSC.

The TAT arrived on site at 1615 hours and observed a drainage



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Technical Assistance Team
Region V

TITLE: Site Location Map		FIGURE #: 1
SITE: Taylor Spill		SCALE: 1 : 24,000
SOURCE/DATE: USGS 7.5 Minute Series (Topographic) Quadrangle	CITY: Taylor STATE: Michigan	TDD #: T05-9304-007

ditch approximately 130 feet long and 1-4 feet wide containing water and a fine, granular, white precipitate. The ditch ran parallel to Inkster Road and flowed into a drainage creek just north of Goddard Road. The white precipitate did not appear to be flowing into the creek; but, because the substance was so fine-grained, it was not possible to make a positive determination by visual inspection. Inflow to the ditch came from two sources: a culvert running under Goddard road and a storm sewer running parallel to Goddard Road. The TAT observed that the white substance was present in the storm sewer opening but not in the culvert. At approximately 1645 hours, Walter Gaffney, the Chief Weighmaster for the Wayne County Division of Roads, arrived on site and reported to the TAT that he had first observed the white precipitate in the ditch several weeks ago, but had never reported it. Gaffney gave the TAT a list of city and county contacts that could reached for information regarding possible sources of the spill. The OSC arrived on site at approximately 1750 hours.

A 2-phase sample was collected from the ditch and field screened using a pH test, a copper wire flame test, and a flammability test. The pH of the liquid was approximately ten and the copper wire and flammability tests were negative. The pH of the water in the entire ditch was also approximately ten, and the pH of the water in the drainage creek was seven.

The TAT and OSC began looking for the source of the white precipitate via a storm drain search. Moving east along Goddard Road, manhole covers were opened to observe the presence of white precipitate for approximately two miles to Beech-Daly Road. No precipitate was observed in storm sewers past Beech-Daly Road in any direction. A sanitary sewer manhole was opened (on Goddard Road) to check for substance but none was detected.

The source of the release of substance into the storm sewer was narrowed down to two storm drain culverts on Goddard Road between Inkster and Beech-Daly Roads just east of Holland Road. These two culverts were observed to have a build up of the white material mixed with road sand. The culverts carried storm water from road grates to the catch basins in the storm sewer.

On Friday, April 9, 1993, at approximately 1050 hours, the OSC and TAT met on-site with Michael Schermaesser and Charles Pruskolaski of the Wayne County Division of Public Works, Philip Petix of the Wayne County Department of Roads, and Michael Tomaszewski of the City of Taylor Department of Public Works. The OSC pointed out the white precipitate and showed the group the build up in the storm sewers. Larry Jessup of the Division of Airports arrived on site and stated that this material had nothing to do with the Detroit Metropolitan Airport.

The TAT collected a composite sample of the white precipitate from the two storm sewer build-up areas and the drainage ditch. The sample was submitted to Clayton Environmental Laboratories in

Novi, Michigan, for analysis. Analysis was performed under TDD # T05-9304-803

On Friday, April 9, 1993, the Wayne County Division of Public Works had booms and sorbet pillows put in the drainage ditch to slow or stop seepage into the creek.

Analytical results of the composite sample indicated that the fine-grained substance in the ditch had a pH of 9.8, contained no metals or pesticides, and had a high calcium content. The results indicated no characteristic or F-listed wastes of reportable concentration. This information was forwarded to the officials of the City of Taylor.

The U.S. EPA has turned the clean-up over to the City of Taylor. Routine maintenance of the storm drains is planned by the City. They will address these drains on a priority basis to remove the build-up of sediment.

Please contact this office should any additional information on this site be needed.

Sincerely,

Mark A. Durno
TAT Member

Sandra L. Basham
Assistant TAT Leader

MAD
Attachments

cc: Jason El-Zein, OSC

A

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Subject: Drainage ditch containing fine granular white material.

Photo No: 1
Direction: North
Photographer: Durno

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Subject: Storm sewer opening into drainage ditch where substance was coming from.

Photo No: 2
Direction: East
Photographer: Durno

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Subject: Entire drainage ditch area.

Photo No: 3
Direction: South
Photographer: Durno

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Subject: Flow of the drainage ditch into the drainage creek.

Photo No: 4
Direction: Southwest
Photographer: Durno

Site: Taylor Spill — Photo No: 5
Date: 4/08/93 — Direction: Southeast
Camera: OLYMPUS INFINITY — Photographer: Durno
Subject: Substance build-up inside a storm sewer catch basin.

Site: Taylor Spill — Photo No: 6
Date: 4/12/93 — Direction: South
Camera: OLYMPUS INFINITY — Photographer: Durno
Subject: Drainage ditch after sorbet pillows and pads had been

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Photo No: 7
Direction: South
Photographer: Durno
Subject: Drainage ditch after sorbet pillows and pads had been placed in the ditch.

Site: Taylor Spill
Date: 4/08/93
Camera: OLYMPUS INFINITY
Photo No: 8
Direction: North
Photographer: Durno
Subject: Drainage ditch after sorbet pillows and pads had been

B

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M E M O R A N D U M

DATE: May 29, 1993

TO: Mark Durno, TAT Project Manager, E & E, Detroit, MI

FROM: Emily S. Landis, TAT-Geochemist, E & E, Cleveland, OH

THRU: Anne A. Busher, ATATL, E & E, Cleveland, OH

SUBJ: **Pesticides Data Quality Assurance Review**, Taylor Spill Emergency Response, Taylor, Wayne County, Michigan

RE: Analytical TDD: T059304803 Project TDD: T059304007
Analytical PAN: EMI1134AAA Project PAN: EMI1134MAA

The pesticide data quality assurance review of one sample of spilled, white, solid material for pesticides analysis is now complete. The sample was collected by the TAT on April 9, 1993, and submitted to Clayton Environmental Consultants of Novi, Michigan. The laboratory analyzed the sample for pesticides by gas chromatography, following SW-846 Method 8080. The sample was labeled GI1, corresponding to the laboratory's number 139057 under Clayton Project Number 87987-17.

Data Qualifications:

I Sample Holding Time: Acceptable.

The laboratory received the sample on April 9, extracted it April 10, and completed the analysis April 11, 1993.

II Instrument Performance: Acceptable.

DDT retention is greater than 12 minutes on the performance evaluation mix standard. A review of the resolution check standard integration report indicates than there is adequate resolution (> 25%) between peaks of other pesticide standards. Retention time windows are not reported in the raw data. The sample was not spiked with DDT, therefore its percent breakdown cannot be evaluated.

III Initial and Continuing Calibrations: Acceptable.

The percent relative standard deviation (%RSD) for DBC and DDT standard areas is less than 10 %RSD, indicating that the initial calibrations were linear. Standard Mixes A and B were analyzed in the proper sequence. All percent differences (%D) for continuing calibration check pesticide and PCB standards were less than 10 %D.

IV Error Determination: Not applicable.

Precision and error were not calculated for this sample.

V Blanks: Acceptable.

The pesticide method blank contained no pesticide compounds above the instrument detection limits.

VI Compound Identification: Not applicable.

No pesticide compounds were reported in the sample.

VII Compound Quantitation and Detection Limits: Acceptable.

The reported values reflect initial dry weight and dilution factors.

VIII Performance Evaluation Samples: Not applicable.

IX Optional QA Checks: No action taken.

Percent recoveries (%R) of Aroclor 1254 in the sample matrix spike and matrix spike duplicate were 75 %R and 84 %R, respectively.

Overall Assessment of Data:

This data validation is based upon OSWER Directive 9360.4-01 (1990). With the information provided, the results may be considered acceptable for use as reported.

Analytical Results

for

ECOLOGY & ENVIRONMENT, INC.

Clayton Project No. 87987-17

Sample Matrix: Soil
Lab Number: 139057
Sample Identification: Storm Drains on Goddard
Analytical Method : EPA 8080
Moisture (%): 40

Compound Name	Concentration (ug/kg)	Limit of Detection (ug/kg)
alpha-BHC	<3	3
beta-BHC	<3	3
delta-BHC	<3	3
gamma-BHC (Lindane)	<3	3
Heptachlor	<3	3
Aldrin	<3	3
Heptachlor Epoxide	<3	3
Endosulfan I	<3	3
Dieldrin	<6	6
4,4'-DDE	<6	6
Endrin	<6	6
Endosulfan II	<6	6
4,4'-DDD	<6	6
Endosulfan Sulfate	<6	6
4,4'-DDT	<6	6
Methoxychlor	<30	30
alpha-Chlordane	<3	3
gamma-Chlordane	<3	3
Toxaphene	<300	300
Endrin Aldehyde	<6	6

Results are reported on a dry weight basis, corrected for percent moisture.

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MEMORANDUM

DATE: May 17, 1993

TO: Mark Durno, TAT Project Manager, E & E, Detroit, MI

FROM: Emily S. Landis, TAT-Geochemist, E & E, Cleveland, OH

THRU: Anne A. Busher, ATATL, E & E, Cleveland, OH

SUBJ: **pH Data Quality Assurance Review**, Taylor Spill Emergency Response, Taylor, Wayne County, Michigan

RE: Analytical TDD: T059304803 Project TDD: T059304007
Analytical PAN: EMI1334AAA Project PAN: EMI1334MAA

The data quality assurance review of one sample of spilled, white, solid material for pH analysis is now complete. The sample was collected by the TAT on April 9, 1993, and submitted to Clayton Environmental Consultants of Novi, Michigan. The laboratory tested the sample's pH with an electronic pH meter, following SW-846 Method 9045. The sample was labeled GI1, corresponding to the laboratory's number 139057 under Clayton Project Number 87987-17.

Data Qualifications:

I Sample Holding Time: Not applicable.

The laboratory received the sample on April 9, and tested it the same day.

II Instrument Calibration: No action taken.

The laboratory report indicates that the pH meter was calibrated with pH 7 and pH 10 buffers; this is not supported in the raw data. A pH buffer of 6.0 was tested before and after the sample, with results within 2% of the true value.

Overall Assessment of Data:

OSWER Directive 9360.4-01 (1990) does not specify pH quality assurance criteria. With the information provided, the results may be considered acceptable for use as reported.

Analytical Results

for

ECOLOGY & ENVIRONMENT, INC.

Clayton Project No. 87987-17

Sample Matrix: Sludge

Lab Number	Sample Identification	Analytical Method (EPA)	pH
139057	Storm Drains on Goddard & Inkster	9045	9.8

Sample preparation: 10m/L of deionized water was added to 10 g of the sample. The sample was then shaken to achieve mixture.

The pH meter was calibrated with a ph7 and pH10 buffer. A pH6 buffer was run to confirm calibration.

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M E M O R A N D U M

DATE: May 3, 1993

TO: Mark Durno, TAT Project Manager, E & E, Detroit, Michigan

FROM: Emily S. Landis, TAT-Geochemist, E & E, Cleveland, Ohio

THRU: Anne A. Busher, ATATL, E & E, Cleveland, Ohio

SUBJ: **Inorganic Metals Data Quality Assurance Review**, Taylor Spill Emergency Response, Taylor, Wayne County, Michigan

RE: Analytical TDD: T059304803 Project TDD: T059304007
Analytical PAN: EMI1334AAA Project PAN: EMI1334MAA

The data quality assurance review of one sample of spilled, white, solid material for metals analysis is now complete. The sample was collected by the TAT on April 9, 1993, and submitted to Clayton Environmental Consultants of Novi, Michigan. The laboratory analyzed the sample for RCRA metals plus copper, zinc, beryllium, and alkalis (potassium, calcium, and sodium), following SW-846 Methods 6010 (inductively coupled plasma - ICP) and 7471 (cold vapor atomic absorption - CVAA). The sample was labeled GI1, corresponding to the laboratory's number 139057 under Clayton Project Number 87987-17.

Data Qualifications:

I Sample Holding Time: Acceptable.

The laboratory received the sample on April 9, 1993, and completed the analysis April 13, 1993.

II Initial and Continuing Calibrations: Acceptable.

ICP - A blank and four standards were run prior to the sample. The instrument readings for each element were within 10% of the mean of three readings for each respective element. The digested sample was diluted to obtain a reading within the instrument calibration range.

CVAA - A blank and four standards were run prior to the sample. The correlation coefficient for the standard curve was greater than 0.995, as required by the method. The analyzed sample was within the instrument calibration range.

III Blanks: Acceptable.

ICP - The method blank contained no analytes above the instrument detection limit.

CVAA - Information regarding the batch method blank is not available in the data packet.

IV ICP Interference Check Sample (ICS): Acceptable.

Percent recoveries for the ICS were within 20% of the true values for each element.

V Error Determination: Not applicable.

Bias and precision were not determined for this sample.

VI Performance Evaluation Samples: Not applicable.

VII Optional Additional Instrument QC: No action taken.

The sample matrix spike (MS) and matrix spike duplicate (MSD) percent recoveries were within ±20% for each analyte, except for barium (MS), selenium and sodium (MS and MSD), and potassium (MSD). The calcium MS/MSD were diluted out due to the high concentration in the sample.

Overall Assessment of Data:

This data validation is based upon OSWER Directive 960.4-01 (1990). With the information provided, the results may be considered acceptable for use as reported.

Analytical Results

for

ECOLOGY & ENVIRONMENT, INC.

Clayton Project No. 87987-17

Sample Matrix: Sludge
Lab Number: 139057
Sample Identification: Storm Drains on Goddard
Moisture (%): 49

Compound	Analytical Method (EPA)	Analytical Result (mg/kg)	Limit of Detection (mg/kg)
Arsenic	6010	22	5
Barium	6010	150	5
Beryllium	6010	<4	2
Cadmium	6010	<6	3
Calcium	6010	470,000	50
Chromium	6010	<10	5
Copper	6010	31	5
Lead	6010	22	5
Mercury	7471	<0.2	0.1
Potassium	6010	220	50
Silver	6010	<2	1
Selenium	6010	<5	5
Sodium	6010	2,400	50
Zinc	6010	35	5

Results are reported on a dry weight basis, corrected for percent moisture.

QUALITY CONTROL
INFORMATION

for

ECOLOGY & ENVIRONMENT, INC.

Clayton Project No. 87987-17

Sample Matrix: Sludge
Lab Number: 139057
Sample Identification: Storm Drains on Goddard

Compound	Matrix Spike MS (%)	Matrix Spike Duplicate MSD (%)
Arsenic	96	94
Barium	117	96
Beryllium	93	92
Cadmium	86	87
Calcium	*	*
Chromium	92	91
Copper	99	96
Lead	94	92
Mercury	108	106
Potassium	97	72
Selenium	71	69
Silver	102	100
Sodium	312	126
Zinc	99	93

* Matrix spikes diluted out due to high concentration.